

19971105.ba v01\_n759.bam.971105 v01\_n760.bam.971105

>From ???@??? Wed Nov 05 23:28:10 1997  
Message-Id: <199711051506.JAA28570@sco.theporch.com>  
Date: Wed, 5 Nov 1997 09:06:04 CST  
Subject: BOATANCHORS digest 1759

BOATANCHORS Digest 1759

Topics covered in this issue include:

- 1) DSP / NozzleBaud-300  
by marty@aa4rm.radio.org (Marty R's latest)
- 2) de W9RAN  
by "Robert Nickels" <ranickel@mwci.net>
- 3) Re: bent statots  
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- 4) cleaning rigs  
by "Larry Johnson" <k5yf@wt.net>
- 5) those pesty aliens  
by "Larry Johnson" <k5yf@wt.net>
- 6) Re: My Turn  
by Don Reaves <dr@cei.net>
- 7) Re: Hallicrafters S-40A  
by Henry van Cleef <vancleef@netcom.com>
- 8) KMA-367  
by "Don L. Davis" <dxguy@earthlink.net>
- 9) BA Enthusiast Ages  
by ARONGV@aol.com
- 10) Antiquity  
by Henry van Cleef <vancleef@netcom.com>
- 11) Re: HV power: not a BA topic  
by JOlson8590@aol.com
- 12) Heath QF-1 Query  
by "Roger A. McCarty" <rmccarty@deltanet.com>
- 13) How I became a BA-file.  
by Engbert Oord <engbert.oord@jet.uk>
- 14) WTB Schematic for EICO 377 sig gen  
by bgraham@tecnet1.jcte.jcs.mil
- 15) Re: Cleaning Old Rigs??  
by jkh@lexis-nexis.com (John Heck)
- 16) RE: Fluke 8100A help needed  
by "L. Mark Pilant - MS:ZK03-4/Y02 DTN:264-1529" <pilant@seesaw.ENET.dec.com>
- 17) RBG Man-schemes  
by "Paul Bernhard" <W2TU@classic.msn.com>
- 18) HRO 5T FS  
by laffitte@prtc.net (laffitte)
- 19) Re: Hallicrafters S-40A

by "A. B. Bonds" <ab@vuse.vanderbilt.edu>  
20) How I became a BA addict :- ) :- )  
by "L. Mark Pilant - MS:ZK03-4/Y02 DTN:264-1529" <pilant@seesaw.UNET.dec.com>

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Date: Tue, 4 Nov 1997 23:50:38 -0500  
From: marty@aa4rm.radio.org (Marty R's latest)  
To: boatanchors@theporch.com  
Subject: DSP / NozzleBaud-300  
Message-ID: <199711050450.XAA08206@aa4rm>

I just tried a \$9.97 blowout RS 21-543 tonight with a 12V/.5A "wall wart" scavenged from an old modem (with plug polarity change)

Whatta gizmo.

Tried it on 7355 CHU Canada with the BFO on. It found the continuous carrier note & notched it leaving the similarly pitched "stutter tone" that's this time sig's trademark.

As the old joke about the Thermos Bottle goes... "How do it know?"

I love the 'lil thing!

Marty

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Date: Tue, 4 Nov 1997 23:25:19 +0000  
From: "Robert Nickels" <ranickel@mwci.net>  
To: boatanchors@theporch.com  
Subject: de W9RAN  
Message-ID: <199711050529.XAA20512@subcellar.mwci.net>

I usually start my posts with "Hi All", but tonight "Welcome Friends" seems more appropriate...

Jack suggests we view this list as a symposium, and it seems we've reached a point where rather than just nodding politely to one another we've taken the opportunity to get to know one another a bit between the more technical and cerebral discussions of vintage radio lore...

I turned 46 last week, so I guess that makes it 31 years since that first sweaty-palmed 80 meter QSO. But in reality it was my second-grade teacher who provided a few old dry cell batteries, knife

switches, lamps, and hunks of wire - just the thing to touch off a kid's imagination back in the year Sputnik brought electronics and technology to everyone's attention. I've often been amazed, and thankful, at the impact this gentle nudge has had on my life.

Like many of you, I've always been more at home at the workbench than in front of the TV, and I've never had to worry about having too much free time! As a kid, I went from homemade telephones to foxhole radios to the one-tube regens and a bazillion homebrew projects that I never quite had the right parts for, but slaved over for weeks anyway. The fun was in the learning - from motors made of spike nails to homemade Lecher lines, I moved from books like "A Boy and A Battery" to the projects in the handbook and 73 magazine, and my toolbox filled with Greenlee punches and the backyard with aluminum and copper.

Ham Radio was contending with CB for my junior-high attention when a family friend introduced me to his Hallicrafters S-20R and the decision was made! ( I wish I could tell you that I have that S-20R sitting on my shelf here, but truth is a high-school buddy and I bought it, tore it apart, painted it brown, and never did get it back together right, more's the shame! ) My folks, realizing that I hadn't outgrown the radio phase with the Remco toys, bought me a Knight Span Master, and my Dad and I built it on Christmas vacation. I still recall hanging the coiled-up loop of antenna wire from a light fixture and hearing the room fill with whistles and squeals from that 2-tube (plus selenium rectifier) wonder! (And I \*do\* have it sitting on my shelf, always will!) Thank God for parents and teachers, and others who encourage and support their kids (and don't worry too much about all those wires and funny noises!)

So for me it's been a journey through familiar country for the past few decades, a major difference being that the radios of my desire no longer exist only in the Allied catalog, but quite a few of them surround me every day. It's hard to describe to non-BA people that these old metal and glass boxes make me feel "comfy" and "secure" - but I think you will know what I mean...

I emit a lot more e-mail on the internet than I do RF, but I listen a lot and between the BA gear, military surveillance receivers (my latest passion), restoration projects, vintage hi-fi, microphones, or whatever - I love this stuff! Partially because of the technology and the lifelong learning that it represents, but mainly because of the people that I've met over the years. I worked my way through college at radio stations, but otherwise radio is just a hobby. I work as an engineering manager for Honeywell , but it is the practical electronics that I've learned from hams - and from being a ham - that I draw upon every day. And everywhere I've lived, the

hams, hobbyists, and builder/experimenters have quickly become my best friends. This list is no exception!

73, Bob W9RAN

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Date: Tue, 4 Nov 1997 21:36:03 -0800 (PST)  
From: John Kolb <jlkolb@cts.com>  
To: Bob Roehrig <broehrig@admin.aurora.edu>  
Cc: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: bent stators  
Message-ID: <Pine.SC0.3.91.971104213301.29844C-100000@sd.cts.com>

On Tue, 4 Nov 1997, Bob Roehrig wrote:

> On Mon, 3 Nov 1997 EdKB2NSP@aol.com wrote:  
>  
> > Is that why the outermost rotor plates are sometimes slotted ? For band  
> > edge adj ?  
>  
> YUP.

Adjust with care. I once had a HRO-500 that someone had adjusted. Yes it was right on at the xtal calibrator marks (50 kcs?) but the end cap plates had the profile of saw teeth, and it was up to 10 kHz off between the cal markers. There's very seldom a need to adjust the trim tabs - if adjusted, they should make a smooth curve.

John Kolb KK6IL

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Date: Wed, 5 Nov 1997 05:44:07 -0000  
From: "Larry Johnson" <k5yf@wt.net>  
To: "Boat Anchors" <boatanchors@theporch.com>  
Subject: cleaning rigs  
Message-ID: <01bce9ad\$d5370ca0\$f2988bce@k5yf.wt.net>

i've found that son-of-a-gun, which is apparently similar to armorall, does a great job of cleaning rigs. i've used it on all of my hallicrafters...sx-111, ht-37, ht-41, to keyer, sx-42, plus a national 303...it not only does a great job of cleaning the panel, it leaves a nice sheen, and gets the dirt and smoke residue off. i've yet to see any case of it taking off the lettering on anything but of course, caveat emptor. also, this stuff and a toothbrush does wonders on the knobs.

Larry Johnson, K5YF  
Houston, TX  
e-mail: k5yf@wt.net

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Date: Wed, 5 Nov 1997 05:47:34 -0000  
From: "Larry Johnson" <k5yf@wt.net>  
To: "Boat Anchors" <boatanchors@theporch.com>  
Subject: those pesty aliens  
Message-ID: <01bce9ae\$50a36c80\$f2988bce@k5yf.wt.net>

just got my copy of bobbi's frank jones book...great book...good job by  
bobbie...had to laugh. opened up and the first thing i saw was the 1935 fcc  
rulings...about an amateur radio station could not be located on the  
premises controlled by an alien. there go my plans to operate the next  
classic 'test from mars.

Larry Johnson, K5YF  
Houston, TX  
e-mail: k5yf@wt.net

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Date: Tue, 4 Nov 1997 23:31:42 -0600 (CST)  
From: Don Reaves <dr@cei.net>  
To: boatanchors@theporch.com  
Subject: Re: My Turn  
Message-ID: <Pine.LNX.3.91.971104230529.26941B-100000@kc5jh.reaves.net>

Bob and Don and others said it well, the members of this list offer more  
than just polite acknowledgement of each other. I think we play together  
very well! I've made some wonderful acquaintances here, much like we used  
to do on 80M AM QSO's back in the early 60's when I first started in ham  
radio. Hearing your stories of how you got interested in boatanchors at  
an early age is fascinating. My early interest was fueled by my Dad, who  
left the military after the war as a radio instructor to start his own  
business repairing radios and those new fangled TVs. My best friend and  
mentor was a ham with an ART-13 and a HQ-100C. I helped build the power  
supply for the ART-13 and it was a three rack monster that did indeed glow  
in the dark. Those autotune motors whirling away hooked me on military  
rigs. Two of my high school teachers were hams, and so was my principal  
so I had plenty of encouragement. And lots of parts from the TV-radio

shop to build stuff. Dad never complained.

I'll turn 51 next month, and messing with these old boatanchors is more fun now than ever and are a respite from the sometimes hectic bit twiddling that I do at work (to get cash for more boatanchors).

It's a pleasure knowing all you guys and gals.

Don Reaves WA5BBS  
dr@cei.net  
Little Rock 72211

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Date: Wed, 5 Nov 1997 00:02:30 -0700 (MST)  
From: Henry van Cleef <vancleef@netcom.com>  
To: wade@iquest.net  
Cc: boatanchors@theporch.com  
Subject: Re: Hallicrafters S-40A  
Message-ID: <199711050702.XAA18794@netcom2.netcom.com>

As Michael J. Wade discourses

>  
> I finally found the problem with my S-40A, the primary winding on the audio  
> output transformer is open. The questions is how do I fix it?  
> The manual only gives a brief description and a part number.  
>  
> T-16 Transformer, audio output 55B093  
>

No sweat. Antique Electronic Supply sells both Universal output transformers and some with fixed impedances. A replacement for an AA5 will work just fine in an S-40.

Suggest you check the coupling cap to the output tube grid, and the value of the cathode resistor, also make sure the cathode bypass is cap'ing, not resisting. Burned out output transformer, dead filter chokes and series field coils, and power transformer woes are all a sign of leakage pulling up the output tube grid.

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Hank van Cleef  
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Date: Wed, 05 Nov 1997 00:03:44 -0800  
From: "Don L. Davis" <dxguy@earthlink.net>  
To: boatanchors@theporch.com  
Subject: KMA-367  
Message-ID: <3460285C.27C9@earthlink.net>

Re: MW police radio: I have a QSL (or rather a non-QSL letter) from KMA-367 in LA from about 1965. They were on the air strong, around the clock during the 60's. Don't know when they went off the air, however. They were base to mobile only, characterized by uniform femal voices "See the man, 4-15 in progress, ....." Just like the TV program Adam-12. don davis DXGUY@earthlink.net

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Date: Wed, 5 Nov 1997 02:09:41 -0500 (EST)  
From: ARONGV@aol.com  
To: boatanchors@theporch.com  
Subject: BA Enthusiast Ages  
Message-ID: <971105020220\_-1341389403@emout10.mail.aol.com>

Hi Gang:

First I'd like to say that my receiver giveaway finally ended, with two RME 69s, three RME 70s, an SX27 and an SX 24 finding new homes.

Still uncovering projects long forgotten in the garage (well, it \*is\* heated and dry), and came across a tattered looking Globe Scout that is quite complete and looking for a new home. One problem: someone removed the crystal socket on the front and replaced it with a coax connector! Any interest should be directed to me E-mail address and not this list.

Now, although it's about threadbare, as a kid, I liked collecting rocks, so I usually found good pickings in a nearby creek after good rains. And then one day I started paying attention to the strange things being washed along that stream: radios, batteries, tubes, earphones. That's right, a floating junkyard.

My mother wasn't too pleased that I was dragging junk home from the creek, but at least I kept them in a shed out behind the house.

Then the usual happened. Someone gave me a card with a galena crystal glued to it. The card described how to build a crystal radio. That launched me, eventually, into ham radio in 1948 at the age of 16 as W00IZ.

My whole life has been affected in one way or another by that beginning, as

I've worked in Air Force communications, had a stint as a police dispatcher, been a grade one electrical/communications inspector at McDonnell Aircraft in St. Louis, and edited such professional journals as Broadcast Engineering, Video Systems, Radio Y Television, Television Broadcast and now Government Video.

But as for BAs, I prided myself all my life on being on the leading edge of technologies, and writing to industries that were always pushing the envelope.

BAs became a force for me about six years ago when someone asked me if I'd look at an old receiver that had been in their family since their dad died. The son wanted to keep it, and wanted to know if it was worth fixing.

Ha! It turned out to be an SX-101. So I pushed my TS940SAT aside and went to work on the old gal.

All it took was a little cleaning, changed one tube and a few caps and she was up and running. But I got trapped into listening to the bands on that receiver. Man, 40 meters was a mile wide! And the audio? Great, especially on AM on 3885. I'd forgotten what AM sounded like on the ham bands, and I was surprised at how much better SSB sounded.

That did it. Three years later I sold my Kenwood and went headlong into buying and fixing the BA rigs. The older the better.

I don't think with me that it's so much a nostalgia thing as it is that I just like what the old designers were trying to do back in the 30s, 40s and 50s. Frankly, I never lusted after any of the rigs I saw down at Walter Ashe in St. Louis or at Burstein Applebee in KC. If I couldn't buy one, I built one.

I don't know where the term "Elmer" came from. I never heard it used until I got onto this list. But from my take on this list, and those who operate by the glow of their filaments and dial lights, boatanchors@theporch.com is actually a collection of Elmers.

I owe my beginnings, where someone took the time to overlook my teenage shortcomings and work with me, to WOLLN, Frank Waltermann, Walter Ashe, and Bill DuBord, Walter's store manager. Even ole Wade at Associated Radio in Overland Park, KS.

Gentlemen, the real spirit of ham radio resides here, and the fact that people half my age who are just seeing a DX-100, Valiant, or a Globe Champ for the first are finding a "virtual community" here, it's because in keeping BAs alive, we keep the essence of what used to be called "the ham fraternity" alive.

I love high tech, but what it has meant to ham radio is that too many signals



are coming from black box operators. Myself and many like me live in BA land because we really do know basically "what's under the hood," and we know that on this list we can continue to learn more than contest rules and QSL routes.

Now you know why I seldom voice an opinion here. Editor's at 65 don't always know when to say 73s es God Bless De Ron/W00IZ Sk EE.

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Date: Wed, 5 Nov 1997 01:08:45 -0700 (MST)  
From: Henry van Cleef <vancleef@netcom.com>  
To: dr@cei.net  
Cc: boatanchors@theporch.com  
Subject: Antiquity  
Message-ID: <199711050808.AAA22233@netcom2.netcom.com>

Well, all you young'uns (starting with Bobbi Barmore) listen up!  
I'm a 1934 model----the antithesis of the baby boom; the year the birthrate was lowest in all American history.

And, Bobbi Barmore, you kid you, don't talk to me about grey hair and eyeglasses. I've got both, and never worried about it at all. Still not used to the glasses---I had to get them to read when I was fifty. And anyway, anyone who can keep a channel 13 TV station running knows what she is doing, and there won't be any more discussion on that.

I got curious about radios when I was 9---in 1943, and there were a few dead ones around to play with. The local library produced a copy of Ghirardi's "Radio Physics Course" which began to give me clues. There was an old gentleman down the street---an 1896 Ph.D. in Physics from Johns Hopkins, who did his thesis on the effects of electricity and magnetism on iron and nickel wires. His career after 1908 was aviation. My father told me if I had questions go see him; so I did. He believed in doing things right, so at ages 9 and 10 I learned about algebraic notation, principles of the calculus, and some other handy stuff, and had he lived past the end of WWII I don't doubt we would have done Clerk Maxwell. The text was Terman, "Radio Engineering," and he wouldn't turn me loose until I could do DC and AC circuit analysis.

As a teenager, I had a steady business fixing "dogs" for the local radio shops, had the audio in a couple of movie theaters to take care of. The only ham I recall meeting was my high school principal who put me to work overhauling the school's stuff, which had been bought in the late thirties and never really used---I ended up setting up audio-visual stuff for showing movies in classrooms, etc. Also did some disk jockey work at dances, which led to some stints at local

radio stations. Actually got a 2nd class RT license for that, which meant pin money through college. Got tracked into a technical school, where I discovered (1) Scott Fitzgerald and (2) a girlfriend who was studying stuff I knew nothing about and that intrigued me, so one semester of technical school was it---I got some degrees in History instead. Since history didn't pay anything, and some other things did, I worked for Packard Motor Car Co. (said girlfriend's father had something to do with them) and when that went bust I found myself pointed in the direction of beautiful downtown Malden Mass. and that garage operation to end all garage operations (they were on 2nd floor above a Pontiac dealer) James Millen Mfg. Co., where I began to get a REAL education in how things are done in the real world. After that were a few years with a military outfit in Cambridge, which came to an end with the U2 and Powers business and a trip cross-country to Tektronix in Oregon, then back East in the mid-sixties to feed at the Raytheon trough for about twelve years. Somewhere in there, I learned how to spell computer, because I had to learn how to design one, and after learning that, had to learn how to program one because that's part of the deal.

Sort of forgot about toob iron in the early seventies. I recall a new engineer who had a completely solid state education asking me to decipher what might be wrong with a toob amplifier he had, and when I pointed out that zero volts on a screen grid meant no action at all, had to explain why toobs had three of these "base" equivalents, with two running at fixed voltages---in solid state fizzes terms. About four or five years ago I got to working on some junk that came out of my old house in the east---been stored away and forgotten thirty years---and suddenly discovered the sights, sounds, and smells of old electronics and why it had been so much fun forty and fifty years ago. I never did get around to getting a ham license. I suppose I ought to do something about that, particularly since I've got two nice Meissner Signal Shifters just looking for some 807's to excite. A little CW QRP would be fun---just to see if it worked. So far as talking on the radio, I got paid to do that (and spin platters) and did a bunch more talking to Air Traffic Control out of my workhorse Bonanza, which was well-equipped with a pair of King KX-170B's and a coffee grinder ADF. The other guys had new fancy sits-up-and-begs avionics, but I flew hard IFR with the Kings.

I see some hot discussion about suitable topics, and have to suggest a laid back approach to that one. When went to work for Tektronix, my world revolved around transistors. That was 1960. If you've got a 545B or 547, you haven't got a "toob scope"---they're full of transistors, with a few tubes used where the transistors of the day couldn't cut the mustard---mostly high voltage/current/slewing rate. Dabbling with history is fun, but the kind of experimentation I did back when I was a youngster is best done today with things that have

2N and 74 part numbers, and stuff like that, and there are plenty of challenges out there for the adventurer. Sure, you can buy Surface Mount unfixables (and yes, I've done my share of work with SMT), and you can cook a pair of 813's with 2Kv out of a bunch of 872's. But with 2N222A's at something like a nickel per, you can do a lot of learning for a cheap price. Power is out there, and there was a time when Raytheon put me to work doing power, because it needed to be done and I got stuck with the job. I was glad I knew how to spell power, and the MIT bookstore was no help whatever---a couple of crusty oldtimers (one started with the Boston Street Railway in 1912) put me onto the texts that would tell me what I needed. I'd just as soon be relaxed on "related topics," because there have been too many times when my paycheck got fattened by my doing "related topics" to what everyone else was doing (or able to do).

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=====  
Hank van Cleef  
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Date: Wed, 5 Nov 1997 03:17:46 -0500 (EST)  
From: JOlson8590@aol.com  
To: boatanchors@theporch.com  
Subject: Re: HV power: not a BA topic  
Message-ID: <971105001439\_1535378995@emout09.mail.aol.com>

The discussion started in transformers, operated with AC at 25 Hz, to 50 Hz, to 60 Hz, to 400 Hz, to Audio, to various voltages of DC power lines in the Chicago Loop, to AC-DC Radios, to Electric Railroads and their power needs, including Railroad Signal Equipment, to Tesla in favor of AC, Edison in favor of DC, and that "Tesla Won."

That is how we got here. A long loop, but the basic intent was how to properly power BAs, including suitable power sources, plus a bit of intellectual curiosity as to what was current practice getting power to our shacks. (Pun NOT intended!)

A local town, and local school system, have four BIG three bladed wind generators, that generate AC and synchronize it with the local power lines. Each produces about \$25,000.00 worth of Electricity per year, sold at the Wholesale rate to power grid. One of the generators was happily running all of the Football Field lights this past spring while I was watching my daughter run the 400 meters.

I was very active in Alternative Energy before I retired from Iowa State University, and wind power was really "in" about 20 years ago. At that time, the Whirlwind Power Company sold a two bladed alternator which would completely power a home, and would be a great Ham Shack generator for emergencies. I think they were in Colorado, and a small FM commercial broadcast radio station there was totally wind powered.

I am on two Rail Road Lists, and we are discussing Edison Cells and their use in Steeple Cab Locomotives. We are also discussing RR Signaling networks, Which were originally Telegraph, and later involved radio, and some really Goofy ways of transmitting signals through the original Telegraph Wires.

We got here honestly, but you may be right. We all now have enough information on power transmission to get our rigs working. And our intellectual curiosity is somewhat satisfied.

Now I have to get back to work on my HRO 7. :-)

Cheers!

Jean Olson  
J0lson8590@AOL.com  
Ex K5KJW, ex W0LMV  
on a hill out in the boonies,  
lots of room for antennas

ps. I am on another List that has folks restoring and using 24 and 32 Volt DC generator sets with big batteries, such as were used in rural areas back many years ago. Email me if interested.

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Date: Wed, 05 Nov 1997 01:19:08 -0800  
From: "Roger A. McCarty" <rmccarty@deltanet.com>  
To: boatanchors@theporch.com  
Subject: Heath QF-1 Query  
Message-ID: <34603A0C.1B84@deltanet.com>

Hello!

Can someone tell me which Heath Receiver(s) the Q-Multiplier was intended to operate?

Thanks

Roger KD6CC

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Date: Wed, 05 Nov 1997 09:37:53 +0000  
From: Engbert Oord <engbert.oord@jet.uk>  
To: boatanchors@theporch.com  
Subject: How I became a BA-file.  
Message-ID: <3.0.1.32.19971105093753.007c8670@mailhost>

Goodmorning to you all.

I have enjoyed all the stories about the near fatal BA attraction very much. Now it is my turn

As a young boy of 12 I spend most of my little pocket money at the local radio shops buying old obsolete radio sets. Unfortunately not having the "wisdom" of my present age (54) I invariably took them apart. As I lived in the Netherlands (home of Philips) at the time, most of these old radio sets were made by that company. I remember wilfully destructing beautifully made "High Inductance" sets because they had coils in nice large red copper containers.

One day my father, who was a truckdriver and car-mechanic, gave me one of the most beautifully constructed car radios (RCA) I have ever seen. It was discarded because it ate 0Z4's by the dozen and these things were difficult to obtain. This radio had 8 metal octal valves + 2 6V6G's in the push-pull audio stage, loads of short-wave bands and was inductively tuned. Needless to say, in the end it was taken apart. How stupid can one be.

During my high school years I built many amplifiers which I usually played far too loud. Once I was reprimanded by the police and told to keep it quiet. I decided to turn my hobby into my work and studied electronics. After obtaining my degree I started working as a computer programmer. That was that, I never got to work anywhere near radio or even electrons. It was and still is computers and software all the way.

Work and married life took over from my hobby and it was not until five years ago that I came across a survivor of my destructive period, another Philips "High Inductance" set, that somehow had managed to hide in the lofts of the 6 different houses my wife and I have lived in. This find rekindled my love for radio sets of the tubed kind.

I started collecting consumer type radios, joined various radio clubs and started visiting swap meets and amateur radio rallies. Then one fatal day I came across a Hammarlund 170 VHF and I was sold. Since that day my collection of boatanchors has steadily grown. I still collect consumer type radios but have limited myself to Philips only. So in the end my education does come in handy.

Three years ago I obtained a Radio Amateur licence. My wife followed a year later. At present we are both trying for the Morse certificate.

Greetings

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Engbert Oord , G7THB  
JET Joint European Torus, Culham ,UK  
Email : eo@jet.uk or engbert.oord@jet.uk  
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Date: Wed, 5 Nov 97 08:57:10 GMT  
From: bgraham@tecnet1.jcte.jcs.mil  
To: boatanchors@listserv.tempe.gov, boatanchors@theporch.com  
Subject: WTB Schematic for EICO 377 sig gen  
Message-ID: <199711050951.DAA22053@sco.theporch.com>

Help!

I need the schematic for an EICO 377 sine/square wave generator so I can identify some fried parts and then troubleshoot. (no need for complete manual)

Will pay for copy/mailing cost or perhaps it could be scanned and sent as an attachment.

tnks es 73

Bill

N5LMX/DA1WG

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Date: Wed, 5 Nov 97 08:34:06 EST  
From: jkh@lexis-nexis.com (John Heck)  
To: swlidd@PROAXIS.COM, boatanchors@theporch.com, glowbugs@www.atl.org,  
ebjr@worldnet.att.net  
Subject: Re: Cleaning Old Rigs??  
Message-ID: <9711051334.AA14758@beans.lexis-nexis.com>

Folks,  
In the "Communications Receiver" column of the Oldtimers Bulletin, just received, the product "Birchwood Casey Brass Cartridge Case Cleaner" is recommended as a general

purpose cleaner for all sorts of metallic radio parts and other durable parts, such as Bakelite knobs, etc. The stuff is mixed as directed and may be stored. Caution is needed as it is capable of actually corroding thin platings, but is still recommended as an excellent cleaner. The writeup suggests that complex components such as air variables be dis-assembled before cleaning, and in stubborn cases, 0000 steel wool used to scrub the parts, being careful, of course, to remove any traces of the wool after cleanup. Through rinsing with clear water is a \*must\*. This stuff is available at any gun type shop.

Regards,  
John Heck, KC8ETS  
1009 Donson Drive  
Dayton, Ohio 45429  
(937)865-7036(work)  
jkh@lexis-nexis.com

>  
> At 11:36 PM 11/4/97 +0000, you wrote:  
> >Hi Gang  
> >I have had good luck with "Dow Bathroom Cleaner" (Be carefull  
> >with lettering). I works excellent on crinkle paint. It leaves  
> >it dull but I go over it with WD40 after use (no rust) and it  
> >leaves a shine. The Dow will also remove LIGHT surface rust and  
> >the crap that smoke leaves. BUT TEST IT FIRST!!!!!! It works  
> >for me!!            Regards     Doug  
>

-----  
Date: Wed, 5 Nov 97 08:48:16 EST  
From: "L. Mark Pilant - MS:ZK03-4/Y02 DTN:264-1529" <pilant@seesaw.ENABLE.dec.com>  
To: boatanchors@theporch.com  
Cc: wayne.harrah@mci.com  
Subject: RE: Fluke 8100A help needed  
Message-ID: <9711051348.AA17210@us2rmc.zko.dec.com>

Buzz,

> [a] I need a power cord for it...

This sounds like the older "standard" power cord used for HP instruments. These are still being made and are carried by Newark and Allied. Here is the part number information from a note I posted to BA a while back:

Allied part numbers:

663-7982	Alpha #543	N-E-L
214-3577	Belden #17280	N-E-L
214-3569	Belden #17952	L-E-N

Newark (older catalog) part numbers:

36F986	Belden #17952	L-E-N
36F987	Belden #17280	N-E-L

This shows the two types available. L = Line, E = Earth/Ground, and N = Neutral. (I left out the older prices, but the cords were about \$6-\$7.)

One thing to be aware of: there are two kinds. The ground is always the middle pin, but the hot and neutral are swapped. While this doesn't make much difference to the equipment, it doesn't mean in some cases you will have the switch and fuse in the neutral line rather than the hot line.

> [b] ...Fluke wants \$50.00 for the operator's/service manual...

That doesn't sound all that out of line for the manufacturer :-} However, you can probably do much better. I have obtained a lot of older service manuals from the Manual Merchant (a.k.a. Linda Perkins: linda\_p@ix.netcom.com) and Manuals Plus (801-882-7188 I believe). No financial interest, just a happy customer.

> [c] ...any clues on what might cause all the '7' elements to stay lit?

A lot here would depend on how the display is set up. If there are individual display drivers, I would suspect something in the connector/backplane/wiring. (Individual drivers are the technique used for the HP 5245 and 3440 units.) If there is a multiplexed driver, then it could indeed be a "simple" driver problem. One tip would be is there looks to be a number of replicated circuits (or circuit boards), one for each digit.

Other than that, a lot of poking and proding :-)

> [d] ...nixies...Are they findable...

I have seen some of the more common nixie tubes at places like AES, but in general, my supply has come from hamfests (a couple) to surplus/salvage places (quite a few) to non-working donors (the majority). I usually scoop them up when I find them even if I don't need them. I usually find someone that does :-)

There is one surplus place near me where they offer any tube for \$1.00. Now most of these are the usual pulls and TV tubes (not all that useful). However,



I have managed some real finds lately: Nixies as well as some Klystrons I wanted for spares. It appears one of the local defense contractors unloaded a BUNCH of their older microwave and spares inventory.

BTW, they have had 8100As in the past, usually pretty cheap (\$15-\$25), but I don't remember if there are any there at the moment.

I hope this helps.

73

- Mark N1VQW

-----  
Date: Tue, 4 Nov 97 14:23:56 UT  
From: "Paul Bernhard" <W2TU@classic.msn.com>  
To: boatanchors@theporch.com  
Subject: RBG Man-schemes  
Message-ID: <UPMAIL18.199711051432300231@classic.msn.com>

Had several answers on my request for either manual or schematics for the RBG-1 (CHC-46140) receiver. As it happens, too quick on the delete button and lost the contacts. Please reply with approx cost, etc. I really need those manuals! (No more power lines, I promise!)

Paul Bernhard Sr.  
w2tu@msn.com

-----  
Date: Wed, 05 Nov 1997 10:40:55 -0400  
From: laffitte@prtc.net (laffitte)  
To: boatanchors@theporch.com  
Subject: HRO 5T FS  
Message-ID: <34608577.4AF4@prtc.net>

Hi Gang!

I have decided to part from my HRO 5T with ABCD coils. This set is working well and was recapped years ago. The power transformer had to be replaced but the new one is in the original dog house PS. It needs cosmetic work. It has sort of a very light metallic gray crackle paint over it that I don't think is original. So it needs a complete repaint job. All the knobs are there and I will supply a speaker that is not original. The meter is round and has a small trim piece missing. Inside, the chassis is in very good condition and the set is very sensitive. I

am asking \$160.00 which I think is fair considering that all the original coil sets are included and this is a working set.

Best 73s  
Guido KP4FAR  
BA collector in the tropics

-----  
Date: 05 Nov 1997 08:49:44 -0600  
From: "A. B. Bonds" <ab@vuse.vanderbilt.edu>  
To: boatanchors@sco.theporch.com  
Subject: Re: Hallicrafters S-40A  
Message-ID: <1997Nov05.084944-0600@spike.vuse.vanderbilt.edu>

In <199711050037.SAA08409@sco.theporch.com>, Michael J. Wade wrote:  
>I finally found the problem with my S-40A, the primary winding on the audio  
>output transformer is open. The question is how do I fix it?  
>The manual only gives a brief description and a part number.  
>  
>T-16      Transformer, audio output    55B093  
>  
>Any idea where I could get a suitable replacement, or have a junker they  
>could pull this from?  
>  
In theory, the general purpose single-ended audio transformer from AES should work. I got one for my S-20R (same output circuit) but when it arrived it was so wimpy looking I didn't want to put it in. (Sez it can handle 3w, but geez it looks small). Ended up using the general-purpose line transformer that Radio Shack sells (70.7v line to voice coil). I think I am using the 2.5w tap for the primary. Sounds ok (or as good as these things sound). This transformer is also useful for handling 500/600 ohm speaker outputs.

73    A. B. Bonds

-----  
Date: Wed, 5 Nov 97 09:52:43 EST  
From: "L. Mark Pilant - MS:ZK03-4/Y02 DTN:264-1529" <pilant@seesaw.ENET.dec.com>  
To: boatanchors@theporch.com  
Subject: How I became a BA addict :- ) :- )  
Message-ID: <9711051452.AA20712@us2rmc.zko.dec.com>

Greetings to everyone. I guess it is time to come out of the woodwork with my story.

I'm about middle of the road, age wise. I'm 41. I have always liked to tinker and take things apart...and sometimes I get them back together :-) :-) (My grandmother used to buy be wind up clocks for 50 cents at yard sales. She said she would give me \$5 if I could take it apart and get it back together and working. She never paid out....but I had lots of fun :-)

I got hooked by a present I got for my birthday when I was about 9. It was a crystal radio in the shape of a RED rocket. After that it was many trips to the school library for their science books. I remember reading several books about building things: radios, transmitters, amplifiers, etc. I also went after the Scientific American's Amateur Scientist column. (I thought it great to know how to build a laser from scratch.)

When I was about 12 or 13, I got a Knight Star-Roamer kit for Christmas. I can remember spending many a night putting it together. With wire strung up between the trees in the back yard, I can still remember the excitement I felt with my first SW DX catch: Radio South Africa. To me it was amazing to listen to events half a world away.

It was about that time I started studying to get an amateur license. Alas, I got distracted and didn't get it. Although I finally did after about 20 years :-) However, not having a license didn't stop me from tinkering.

Up through 1975, I continued to tinker. I had been using tubes all along because they were cheap. SS tended to be expensive for a boy with only a paper route. I was picking up boxes and baskets of tubes for a buck, and I got real good at taking apart old TV sets.

In 1975, I moved out on my own and left most of my stuff to one of my younger brothers. All I kept were some books and data sheets. Sadly, all I left behind (including the Star-Roamer) is long gone :-( I still have all the stuff I kept. Gee, it is great being a pack rat :-)

Zip forward a few years...

In 1991, my (now ex) wife decided she wanted to get a divorce. Not wanting to become a workaholic, I figured I'd pick up with some hobbies I had put on hold when marriage and kids came along. I re-entered the electronics by getting a RS DX-390 SWL receiver.

A couple of years later, I started playing guitar again with some folks in a basement band. My acoustic guitar, even though it was a 12 string, wasn't going to cut it. So one of the others found me a good deal on an electric...but I needed an amp. Well, I had had tube amps in the past, and I decided to get another used one because the price was right.

Here's where the fun begins....

Well, since I had a tube amp, I was going to need some equipment to keep it going. I already had a Fluke 77 DVM, but what next? Well, I managed to get a good deal on a Tektronix 475 scope. Well, that was all I REALLY needed...right? :-) :-) Wrong.

I started going to hamfests to pick up parts and books here and there, and started to see how cheap the used equipment was. So I started picking up the older equipment I used to drool over. Unfortunately, it was usually cheap because something was wrong with it. So I'd have to get another piece of equipment to fix it. But, that piece needed fixing as well, so I'd have to get another piece....and on...and on... :-) :-)

Along the line, I also managed to get an R-390A (Motorola) and a bit later a CV-591. (I got both of these at a local place in Hillsboro NH; thanks Chris :-) I also managed to pick up a Hammarlund HQ-170C with matching speaker (thanks Dave) needing some (but not a lot) TLC.

Right now, my basement is a tinkerer's dream. I love it :-)

So now I play around with the RF spectrum from DC to light (literally) and tubes to (VLSI) solid state. I'm also finally learning how all this electronic stuff works, after years of just putting things together and hoping it would work. And my reference shelf is growing.

My thanks to all of the folks on this list for offering things they no longer need/want/use and the tremendous support acquired from years of experience.

73

- Mark N1VQW

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End of BOATANCHORS Digest 1759

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>From ???@??? Wed Nov 05 23:29:14 1997  
Message-Id: <199711052257.QAA09090@sco.theporch.com>  
Date: Wed, 5 Nov 1997 16:57:57 CST  
Subject: BOATANCHORS digest 1760

BOATANCHORS Digest 1760

Topics covered in this issue include:

- 1) Re BC77( for sale  
by GIBSON@ASTRA.LBL.GOV
- 2) RE: Heath QF-1 Query

- by "James C. Owen, III" <owen@piper.eeel.nist.gov>
- 3) Re: BA-Addictitis  
by Dexter Francis <cwest@xmission.com>
  - 4) Swapmeet near Fairplex in Pomona  
by Hal Waite <halwaite@sprintmail.com>
  - 5) ADMINISTRIVIA: Using The Archives  
by listown@jackatak.theporch.com (Mail List Owner)
  - 6) Re: How I became a BA addict  
by "John Goller" <k9uwa@cris.com>
  - 7) QF-1  
by "Grumps Guide Press" <rau@wco.com>
  - 8) Rig Cleaning See Archives  
by "Grumps Guide Press" <rau@wco.com>
  - 9) GFI'S  
by "Grumps Guide Press" <rau@wco.com>
  - 10) MW and Early Fm POLICE  
by "Grumps Guide Press" <rau@wco.com>
  - 11) Re: QF-1  
by Edward Zeranski <ejz@nosc.mil>
  - 12) Re: KMA-367  
by Jeffrey Herman <jeffreyh@hawaii.edu>
  - 13) Central Electronics 20A and 458 VFO FS  
by Dave Hutchison <djhutch@concentric.net>
  - 14) Cover for TS-505 meter available  
by BOB RAGAIN <RAGAIN@hubvx6.sedalia.wireline.slbb.com>
  - 15) Meter repair  
by "al parker" <al\_parker@kacc.com>
  - 16) COMPUTER BA?  
by JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)
  - 17) P & H SPITFIRE  
by JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)
  - 18) SX-100 COMMENTS  
by JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)
  - 19)  
by JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)
  - 20) Re: P & H SPITFIRE  
by Jim Lockwood <jmlckwd@mindspring.com>
  - 21) Gear & Books FS  
by don merz <71333.144@compuserve.com>

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Date: Wed, 5 Nov 1997 8:39:57 -0800  
From: GIBSON@ASTRA.LBL.GOV  
To: boatanchors@theporch.com  
Subject: Re BC77( for sale  
Message-ID: <971105083957.254002ad@ASTRA.LBL.GOV>

I got so many responses that it is almost certainly sold locally.  
Please no more requests!

John

-----  
Date: Wed, 5 Nov 1997 12:21:04 -0500 (EST)  
From: "James C. Owen, III" <owen@piper.eeel.nist.gov>  
To: boatanchors@theporch.com  
Subject: RE: Heath QF-1 Query  
Message-ID: <44465.owen@piper.eeel.nist.gov>

In message Wed, 05 Nov 1997 01:19:08 -0800,  
"Roger A. McCarty" <rmccarty@deltanet.com> writes:

> Hello!  
>  
> Can someone tell me which Heath Receiver(s) the Q-Multiplier was  
> intended to operate?  
>  
Any radio with a 455 Kc IF. I used mine on the Drake 2B as well as the  
Hallicrafters SX-99. 73 Jim K4CGY

-----  
Date: Wed, 05 Nov 1997 10:13:51 -0700  
From: Dexter Francis <cwest@xmission.com>  
To: boatanchors@theporch.com  
Subject: Re: BA-Addictitis  
Message-ID: <3460A945.1581@xmission.com>

Greetings all -

I've really enjoyed reading your postings on how you came to be attached  
to your softly humming, brightly glowing, BA's.

I get to blame my wife! <grin>

About five years ago my wife, Nancy, came home with a Magnificent  
Magavox console radio, complete with 6E5. (She wanted me to turn it into  
a bookshelf or something.)

I dutifully grabbed the screwdriver and started to remove it's guts, and  
thought, wait, I'll just plug this in and see if it still works. The  
more I looked and listened, the  
more my motivation to turn it into a flower pot faded. It now sits in a  
place of honor in the front hall. (Nancy has other things to set her

plants on.)

I'd become acquainted with Don Merz from rec.radio.swap, and stated asking questions about tubes. Don referred me to the BAList and I signed up. Then I remembered an old big black crinkled radio I'd owned back in high school. All I could recall exactly was the deep alligator skin texture and "Skyrider" engraved into the front panel over a big fat knob that felt like it had a ten pound lead counter weight attached to it. That old feeling stated to come back.

Now three years and about 20 radios later, I'm surrounded by four or five favorites and about 60,000 tubes. (That's another story...) Since my professional training is in product design, I get a thrill out of seeing how the different designers plied their trade. (I love the HP and TEK attention to detail.)

Every new radio is a miniature design seminar for me. Some are beautify works of art, carefully planned and well executed. Others are like mysterious caves, with hundreds of twisting interconnected passages fraught with traps and pitfalls. Every one is a new adventure.

I mostly SWL although I have a tech plus rating (NOYLJ). I must admit to feeling code-impaired. My learning style is Visual-Spacial, not auditory, so I made the mistake of studying the code by sight at first.

My last job was as the lead Product/ME for the wireless group at what is now 3Com. They shut down R&D here last July and I was "reduced". I'd become fed up with the whole big corporate thing, so I decided to have a go at being my own boss. After 10 years at Appple I know a few things about Macintosh, so between that, and the tubes, and a bit of teaching, and consulting, and the Executive MBA class I'm in T/Th, I may eventually figure out what I want to be when I grow up (Now 43...)

One thing is certain, when I get there, I'll have few BA's to keep me company.

-df

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Visit our Web site at <http://www.xmission.com/~cwest/>  
e-mail to: [tubes@usa.net](mailto:tubes@usa.net) -or- [cwest@xmission.com](mailto:cwest@xmission.com)  
(P.O. Box 22443, Salt Lake City, Utah 84122)

-----  
Date: Wed, 05 Nov 1997 09:12:46 -0800  
From: Hal Waite <[halwaite@sprintmail.com](mailto:halwaite@sprintmail.com)>  
To: Boatanchors <[boatanchors@theporch.com](mailto:boatanchors@theporch.com)>

Subject: Swapmeet near Fairplex in Pomona  
Message-ID: <3460A90E.7F6D@sprintmail.com>

Planning to take some BA stuff down to this swapmeet. I have the directions but not the date and time of the event. Perhaps someone will help me out.

The last TRW swapmeet was even more disappointing than the previous one that I attended. Sold my mint HQ-170A but boatanchors were notable for their absence. Just the same old vendors selling the same computer stuff and aerospace contractor surplus. There were a few exceptions including Hank who came with a van load.

That's a lot of traffic to plow through on Interstate 91 which was still bumper-to-bumper on Saturday! At least Pomona is easier to reach from Las Vegas.

See you there.

Hal K3AB/7

-----  
Date: Wed, 5 Nov 97 11:15:01 CST  
From: listown@jackatak.theporch.com (Mail List Owner)  
To: boatanchors@sco.theporch.com  
Subject: ADMINISTRIVIA: Using The Archives  
Message-ID: <199711051715.LAA22027@jackatak.theporch.com>

Gang-

This periodic post is designed to help everyone gain more value from their boatanchors subscription.

SAVE THIS FILE FOR FUTURE REFERENCE!!!!

Often I receive an email request, or I read on the list, of someone who is aware there is an archive available with some special files with special information that is of a more permanent nature than a post to the list, but who is unaware of how to retrieve these gems.

In the archives, there are cross-reference tables for Tubes, Military Equipment Nomenclature, suggestions for restorations and modifications to our beloved fire bottle rigs, and some wonderful stories of real adventures and the people involved.

These files may be accessed by email... quickly and easily.



Step One:

send an email (leave the subject blank, or, if your mailer requires a subject, type a single character, like "a" in the subject box) to:

listproc@sco.theporch.com

Step Two:

in the body type:

index boatanchors

Step Three:

after checking out the index for files of interest, and finding the one or more you want to have sent to you, send another email to:

listproc@sco.theporch.com

and, in the body, type:

get boatanchors file.name

where you substitute the name of the file from the index for "file.name"

This should get you off to a good start. If you encounter any problems, please let me know at the address below.

--

73

Jack, W4KH/Mobile - - - BoatAnchor Mailing List Archiver/Owner - - -  
listown@jackatak.theporch.com - "Plus ca change, plus c'est la meme chose"

-----  
Date: Wed, 5 Nov 1997 17:41:08 +0000  
From: "John Goller" <k9uwa@cris.com>  
To: boatanchors@theporch.com  
Subject: Re: How I became a BA addict  
Message-ID: <199711051729.MAA12189@mcfeely.concentric.net>

"The BA Bug has Bitten"

Been a HAM for 38 years...am now 53.....started sort of same way as you.....High School sophmore....got ham license...built ham shack in basement out of junked out TV sets and old BC/SW consumer radios best I could do on part time high school job....and built Crystal sets and home brew radios.....

.....now have dual IC-765's / Alpha 87a station for contesting  
Decided 4 years ago to "Re-Assemble" the "First Ham Station" as I found a Truetone AM/SW Table radio just like the one I had years ago.....rebuilt it....refinished it.....plays great.....and guess what.....my Wife Really loved it!! Finally a Nich in the Ham

Hobby/Electronics....that we Enjoy TOGETHER.....(note here..my Ex-Wife hated my Ham Radios.....this one has a Tech Lite license so she can yak on 2 mtrs to me and all the other guys and gals that we run around with.....The Bad Bug Has Bitten.....this house now has In Excess of 100 Consumer Radios and BA Radios/Transmitters..they are everywhere.....how bad has the bug bitten??? Well last Saturday evening and SUnDay...I turned on the IC-765 and listened to the Annual Sweepstakes Contest while I was rebuilding a Zenith Console Chassis.....

de John K9UWA Antique Radio Nut!!

John K9UWA

k9uwa@cris.com

-----  
Date: Wed, 5 Nov 1997 11:16:09 -0800  
From: "Grumps Guide Press" <rau@wco.com>  
To: "boatanchors" <boatanchors@theporch.com>, <rmccarty@deltanet.com>  
Subject: QF-1  
Message-ID: <199711051916.LAA24994@shell.wco.com>

The QF-1 was an add on q-mulitplier.. not intended for any specific radio...I think it is intended for radios with 455 ifs...but i cant prove it ..no manual for mine. anyway... they were a common and very effective add on for cheap recievers which lacked selectivity.

The ARRL hand book also included q mulitplier designs, for the same purpose.

Larry W6WUH

-----  
Date: Wed, 5 Nov 1997 11:21:36 -0800  
From: "Grumps Guide Press" <rau@wco.com>  
To: "boatanchors" <boatanchors@theporch.com>  
Subject: Rig Cleaning See Archives  
Message-ID: <199711051921.LAA27475@shell.wco.com>

A long thread appeared a month or so ago on the topic of BA Cleaning.

The use of Acids like cartridge cleaner is usually dangerous and is to be avoided. Use Hot dish soap and a stiff tooth brush first, rinse well.. and on non plastic parts.. try rubbing alcohol...methanol or isopropyl.

Other techniques and proper materials were discussed at length.

Larry W6WUH (ex KF6WV, WB6FXM)

-----  
Date: Wed, 5 Nov 1997 11:39:29 -0800  
From: "Grumps Guide Press" <rau@wco.com>  
To: "boatanchors" <boatanchors@theporch.com>, <ab@vuse.vanderbilt.edu>  
Subject: GFI'S  
Message-ID: <199711051939.LAA04527@shell.wco.com>

Whats wrong with having your lights on a GFI ?.. It's done in bathrooms and kitchens all the time.

In fact I insist on in when I work as an electrician. Same with outside lights, laundry rooms, and any wet location.

Is RF a factor ??

I don't have GFI's in the shack, But I think i will...as there is often leakage current to ground in old tube sets... leaky bypass caps.. I guess...I usually measure between my grounded radios and anything new I add to the system to see if there is a voltage difference due to leakage.

Some times these AC only radios can give you a nasty little jolt. I use a permanent marker to code the plugs for neutral/hot "polarity" so they always get plugged in the 'right' way. This is especially helpful if you run a mix of BA and Solid State equipment,,, as i often do.

I wouldn't even think of adding an AC/DC receiver to my operation position ... or hooking it up with my "good" radios !... Such things need their own shelves.. well away from the shower !!!

Larry

-----  
Date: Wed, 5 Nov 1997 11:57:57 -0800  
From: "Grumps Guide Press" <rau@wco.com>  
To: "boatanchors" <boatanchors@theporch.com>  
Subject: MW and Early Fm POLICE  
Message-ID: <199711051958.LAA11668@shell.wco.com>

Police AM transmitters did operate in the 1600kc range. I recently sold a Link transmitter which came from the Napa County Sheriffs Office. It was taken out of service in the the early 50's. It ran 500 watts OUTPUT and consisted of a pair of 250 TH triodes in pushpull modulated by a pair of 250ths in push pull. The transformers were huge Chicago units.. the interstage audio transformers were Collins units 200 to 7000 cycles +/- 1

dB... so it probably sounded pretty darn good !. It base fed a vertical, broadcast style,, with a single wire feeder.

In the hills and mountains of California,, the MW signal propagation didn't have the dead spots that vhf can have. This frequency band is now used by some local government emergency services...

I believe the City of Berkely California has a transmitter in this band.. but when it is used, if ever I don't know.

Link, was a personal friend of Armstrong, the inventor of FM ( and the surper re gen and the super het !)  
His company provided some of the first fm mobiles as airport ground radios...before W.W.II.  
Naturally their performance was considered quite revolutionary. And it was !

Larry W6WUH

-----  
Date: Wed, 05 Nov 1997 12:13:16 -0800  
From: Edward Zeranski <ejz@nosc.mil>  
To: rau@wco.com  
Cc: boatanchors@theporch.com  
Subject: Re: QF-1  
Message-ID: <3.0.1.32.19971105121316.0072f3f8@marlin.nosc.mil>

At 11:16 AM 11/5/97 -0800, you wrote:

>The QF-1 was an add on q-multitplier.. not intended for any specific  
>radio...I think it is intended for radios with 455 ifs...but i cant prove  
>it ..no manual for mine.

>Larry W6WUH

>

> I think it was for the Heath AR2 & AR3 though I messed up and said AR1 the first time I answered this. Was there such an animal? QF-1 could be used with receivers having 455Kc IF with the warning not to use it with AC/DC types. Power came from the host RX. If you need a manual copy let me know, got one from another list member. My QF-1 was a swapmeet cheepie but is ok, want to try it with a spare TCS RX when time allows.

Ed Zeranski This is a private opinion or statement.  
home email: ezeran@cris.com

-----  
Date: Wed, 5 Nov 1997 10:09:44 -1000

From: Jeffrey Herman <jeffreyh@hawaii.edu>  
To: "Don L. Davis" <dxguy@earthlink.net>  
Cc: Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: KMA-367  
Message-ID: <Pine.GS0.3.95q.971105100705.11938A-100000@uhunix3>

KMA 367 lives on; from MF they went to VHF (154 Mc range); now they're in the twilight zone (800 Mc).

-----  
Date: Wed, 05 Nov 1997 15:19:55 -0500  
From: Dave Hutchison <djhutch@concentric.net>  
To: boatanchors@theporch.com  
Subject: Central Electronics 20A and 458 VFO FS  
Message-ID: <3460D4EA.26AE6688@concentric.net>

I have a CE 20A exciter and 458 VFO for sale. The 20A is in very good cosmetic condition and appears to be complete electrically. The VFO has a section of paint removed on the front panel but otherwise is in good cosmetic condition. Both units are sold in as is electrical condition since I have not fired up or tested either rig. I also have a spare 20A without the cabinet that would make a good parts unit.

I will sell all three for \$100 plus shipping from Indiana.

73's

Dave K9HT

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Date: Wed, 5 Nov 1997 14:16:34 -0700 (MST)  
From: BOB RAGAIN <RAGAIN@hubvx6.sedalia.wireline.slbb.com>  
To: boatanchors@theporch.com  
Cc: RAGAIN@hubvx6.sedalia.wireline.slbb.com  
Subject: Cover for TS-505 meter available  
Message-ID: <971105141635.3ea4c446@hubvx6.sedalia.wireline.slbb.com>

Boatanchorites,

I just got a cover for a TS-505 in some stuff I bought at a business that's closing (see below). Does someone need it for a coverless meter, etc? It's free for postage, but Rules of War apply.

Attention Denver Shoppers: I just found out that Crump's Electronics is closing. That's the last "fun" electronics junk place in Denver that I know of. Really too bad (but it's not my fault, I spent my allowance there too often :-)). If you need the type stuff they have, now's the time. That's where I rescued the lost TS-505 cover.

Bob

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Bob Ragain      WB4ETT      Littleton, CO

PS, my first post bounced because the server didn't like the words I used (?)  
Please excuse any double posting.

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Date: Wed, 05 Nov 97 13:53:46  
From: "al\_parker" <al\_parker@kacc.com>  
To: boatanchors@theporch.com  
Subject: Meter repair  
Message-ID: <9710058787.AA878766826@ccuucp.kacc.com>

Hank KN6DI wrote:

>I picked up a SX-18 at TRW which has a damaged original line  
>meter. Is there anybody out there who knows where it can be  
>repaired or any spares

Try: Standard Meter Lab in Livermore, (510)449-0220  
or Leonard W. Cartwright, 879 Russet Drive, Sunnyvale,  
California 94087, (408)739-6025.

I've been to Std Mtr, they were friendly, but not very encouraging  
about my problem. Others have had good results.  
I just heard about L. Cartwright last week-I understand he's trying  
to sell the business, but does take work. I should call him too.

73, Al, W8UT al\_parker@kacc.com  
Dublin, CA

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Date: Wed, 5 Nov 1997 17:20:02 -0500 (EST)  
From: JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)  
To: boatanchors@theporch.com  
Subject: COMPUTER BA?  
Message-ID: <9711051720.aa22078@pcusa01.ecunet.org>

To: boatanchors@theporch.com

Anyone know of a good venue to sell Commodore 64 stuff in? Yes, I know, it's neither BA nor radio stuff, but it is old, at least by computer standards. (Sorry for off-topic note. tn timer respond privately.)

-John Sehring (Wed, Nov 5, 1997 10:42 am MT @Baker, Montana) UCC WB2EQG

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Date: Wed, 5 Nov 1997 17:19:57 -0500 (EST)  
From: JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)  
To: boatanchors@theporch.com  
Subject: P & H SPITFIRE  
Message-ID: <9711051719.aa21964@pcusa01.ecunet.org>

To: boatanchors@theporch.com

I think a problem with the P&H Spitfire is going to be balance among those 6 12JB6's. I've seen homebrew multi-sweep tube linears that had a separate plate current meter for each tube (or at least meter switching for each tube).

Any thoughts on balancing parallel tubes in linears in general (sweep tubes or otherwise)? I have a 2 x 572B gg linear with severe unbalance problem. And, no I'm too cheap to spring for a pair of new ones!

-John Sehring (Wed, Nov 5, 1997 10:18 am MT @Baker, Montana) UCC WB2EQG

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Date: Wed, 5 Nov 1997 17:20:04 -0500 (EST)  
From: JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)  
To: boatanchors@theporch.com  
Subject: SX-100 COMMENTS  
Message-ID: <9711051720.aa22148@pcusa01.ecunet.org>

To: boatanchors@theporch.com

I don't think I'd try & turn this into a rack mounted radio.

The chassis by itself is just not stiff enuf esp. without the case. It

needs the case & every bit of mechanical stiffness it can get!

I don't think the chassis is flimsy, but this particular radio just happens to need a very stiff chassis to behave frequency-wise, for whatever reason.

Much of it seems to have to do with the Variable Cap, which needs a rigid stable platform to sit on. I'd concentrate on chassis stiffeners (could be just bolted on stuff). Also have short seen a short piece of #14 or #12 copperweld wire soldered between the VC baffles.

Also check the main VC bearing endplay you don't want backlash or looseness there. I carefully disassemble the entire 'front end' (comes out of the chassis) which holds both dials & tuning knob shafts and drives the VC's. Check for enuf (but not too much) endplay in bearings there.

Basically I've found you want just a hair \*less\* mechanical resistance (resistance to turning) at each step \*backward\* from the tuning knob shaft to the VC. That guarantees minimal backlash & tuning slop. Yes, there is such a thing as too little mechanical resistance in a tuning assembly. It makes tuning touchy & unstable, kind of like weak shocks in a car.

The bandspread linkage is tricky. The main VC is entirely gear-driven but bandspread VC uses a stainless steel dial cord, so you want absolutely minimum mechanical resistance at the bandspread VC. The cord is very stiff but still has way more give than a gear! You want to be stretching the cord as little as possible as you tune the bs.

Unfortunately, the bandspread VC's bearing is non-adjustable! I've resorted to bending out (gently!) the entire rear plate of the bs VC to increase the bearing endplay to reduce friction in it.

Be very careful about ball bearings falling out of things during this!!

I've had good luck using Rat Shack's "Archer Professional Lube Gel with Teflon". It's claimed that it doesn't run, stays put & doesn't attract stuff--all seems true. No it's not hair gel!

It's a bit of work but worth it!

The circuit of this radio is very similar to the -101, -101 and even the -115 has the \*same\* IF circuit. The electrical performance is there but even QST in a review of it conceded that the mechanicals just weren't up to the electrical level of performance.

Sensitivity & resistance to overload are excellent, selectivity doesn't get much better with LC IF filters, it's got selectable sideband feature & great notch filter. But the radio's instability negates the worth of the



deep notch!

Things I'd add (& have done so):

1. Product detector ct. from SX-101A, copy it exactly, works excellently.
2. AGC ct.
  - A. Copy AGC ct from -101A exactly, gives nice slow decay, but only moderately fast attack, latter is basic limitation of AGC det. ct.
  - B. Rewire (easy) AGC det. to take signal from end of IF chain instead of the middle, copy -101A ct. Gives AGC det. maximum selectivity.
3. You can easily add a very small 6.3 v filament xfmr to run 6C4 HF oscillator continuously & add 3 Watt heater to under HF osc. area, both ideas from -101A. Better, yet, put 6.3 VDC from zener-regulated DC supply on HF oscillator.

The reason the -101 & 101A are battleships is to give mechanical stability, what a way to go! Sadly, this was a deadend street, witness Drake & Collins getting same effect & much more from much less mass.

Drawbacks to -100:

1. HF oscillator is pulled by signal strength on 10m. SSB up there is almost impossible. 1st mixer current runs thru the HF osc. ct. (mixer is cathode driven) & that may be the problem, although the mixer is not AGC controlled & so runs Class A, constant current, or? Don't know of a fix--maybe a buffer between HF osc & mixer.
2. Sensitivity falls off drastically at low end of 1.8 to 4.8 MHz range. By 160 m, its very low. Yes, sig strengths & noise are high on 160 m & you don't need much sensitivity but the drop off is a bit much. The reason(?) maybe is you are approaching the 1st IF freq & don't want leakage/feedback with input of radio. Don't know what the fix is. Curiously, the SX-101 uses exactly the same IF strip & receives down to 1.8 MHz with normal sensitivity & no problem so it can be done.

-John Sehring (Wed, Nov 5, 1997 10:48 am MT @Baker, Montana) UCC WB2EQG

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Date: Wed, 5 Nov 1997 17:19:52 -0500 (EST)  
From: JOHN\_SEHRING.parti@ecunet.org (JOHN SEHRING)  
To: boatanchors@theporch.com  
Message-ID: <9711051719.aa21880@pcusa01.ecunet.org>

To: boatanchors@theporch.com

Diffs from Halli SX-101 to SX-101A:

1. Got an excellent product detector for SSB & CW.
  2. Somewhat better AGC for SSB & CW.
  - 2A. Flatter AGC action as AGC applied now to 1st mixer as well as RF & 1st IF amps. And for purists, no, it does not cause any AGC/HF oscillator pumping action even on 10 m!
  3. AGC channel has maximum selectivity, i.e. AGC voltage derived from a point of highest selectivity
  4. Slightly improved HF oscillator ct., now 12BY7A instead of 1/2 of 12AU7A.
  - 4A. HF oscillator filament now continuously on & 3 watt continuously on heater under HF oscillator area of chassis for improved stability.
  5. Slightly more overload resistant (already a very overload-proof receiver to begin with) via one less IF stage (the unneeded 6C4).
  6. Now 10m coverage exclusively instead of 11 & 10m on one band; tuning rate was way too fast for SSB.
  7. Lost 160m coverage :(
- Got 30.5-34.5 MHz band for use with VHF convertors instead lousy trade.

Mods 2, 2A, 3, 4A & 5 are easy to add to an SX-101 (and SX-100 too).

Mod 1 is fairly easy to add, ditto.

The SX-101 makes a better receiver for AM use than the -101A. It's audio on AM sounds better (a bit less distortion & audio bandpass is more suitable for AM) & has a very effective hi/lo cut audio response switch & more flexible mode switch.

The -101A clearly was going more in the SSB direction.

-John Sehring (Wed, Nov 5, 1997 10:01 am MT @Baker, Montana) UCC WB2EQG

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Date: Wed, 05 Nov 1997 17:41:39 -0500  
From: Jim Lockwood <jmlckwd@mindspring.com>  
To: JOHN\_SEHRING.parti@ecunet.org, Old Tube Radios <boatanchors@theporch.com>  
Subject: Re: P & H SPITFIRE  
Message-ID: <3.0.32.19971105174125.006c5ec0@pop.mindspring.com>

>I think a problem with the P&H Spitfire is going to be balance among those  
>6 12JB6's.

Discovering a true answer to this is going to be a real learning experience. At the moment, the amplifier has 6 good (enough) tubes in it. I am in the hunt, though for a set of 6 spares.

In the past, I've completely ignored the concept of matching tubes. In my Gonset GSB-201 amplifier, I've got two 811 tubes of Chinese origin, one US 811A and one US 811. So far, I'm getting away with this homogeneous mixture. I've tried mixing and matching the tubes in the GSB-201 and never really see any difference in its behavior or in its power out.

In my HT-37, I've got one dark heater 6146 and one mongrel 6146 that glows brightly. This rig, too, works fine with mismatched tubes.

I hope to have the same favorable experience with the P&H Spitfire LA-500M when I have to retube it someday.

>'ve seen homebrew multi-sweep tube linears that had a  
>separate plate current meter for each tube (or at least meter switching for  
>each tube).

This amplifier has three screwdriver adjustments reachable thru the case. I haven't yet taken it out of the case, and I don't yet have a manual, so I can't be sure what they are. My hope is that they are a means of balancing pairs of tubes by varying their bias. We'll see....

>

>Any thoughts on balancing parallel tubes in linears in general (sweep tubes  
>or otherwise)? I have a 2 x 572B gg linear with severe unbalance problem.  
>And, no I'm too cheap to spring for a pair of new ones!

Individual bias adjustments are the only way I've seen for forcing balance among or between tubes that are completely mismatched.

73,

Jim - K4CCF  
(formerly KM6NK, WA4K00, WN4K00)

Looking for original QSL cards from K4CCF

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Date: Wed, 5 Nov 1997 17:53:56 -0500  
From: don merz <71333.144@compuserve.com>  
To: boatanchors@theporch.com  
Subject: Gear & Books FS  
Message-ID: <199711051755\_MC2-26ED-DF8F@compuserve.com>

For Sale

CONTACT: Don Merz, N3RHT: 47 Hazel Drive, Pittsburgh, PA 15228.  
412-234-8819 (weekdays, EST or leave a message anytime).  
71333.144@compuserve.com

FOR SALE

Waterman Products Industrial & Television Pocketscope Model S-11A. Cute 3" 'scope using a 3MP1 CRT. Portable with leather carry-handle. Looks brand new including handle. This one has factory-installed triggered sweep. Has a trace but does nothing when a signal is applied. With original box and manual. \$32

Military metal box. This box was designed to hold a spare PE-104 vibrator power supply for the BC-654 radio. The box mounts underneath the "shelf" on the FM-41-A vehicle mount that the BC-654 sat on when mounted in your command car or halftrack. Just the box, no PE-104. Good original condition. \$12

Military BC-348 knob. Small round metal knob without arrow. Fluted edge. \$3  
Ameco 2 And 6 Meter Transmitter Model TX-62 with matching Ameco 50, 144 and 220 MC VFO Model VFO-621. All original. Front panels are excellent or better. Cabinets have some light scratches and chips at edges but not many. Tested lightly--doesn't smoke and does load up on 2. Didn't test 6 and didn't test for full output, stability, etc. Good. \$65

Ameco TX-62 parts unit. Same as above but one knob missing, no tubes, meter bad, paint just fair. No unoriginal holes. Probably works if it's worth tubing-up. \$9

Hallicrafters SR-42 2 meter AM transciever. A good looking, good-working radio. Paint at front edges has some light scratches. Front panel is excellent. Cabinet is good or very good. I got this from the original owner who made a modification to avoid having to buy expensive 7059 tubes. He replaced the 7059 with a 6U8A and the 12AQ5 with a 6AQ5 and put the filaments of those 2 tubes in series across the 12-volt filament line. Otherwise all original. Complete. Working as designed. \$55

Dictograph audio amplifier. The finals are 2 6V6's. Chassis is dirty and lightly corroded but this should clean up okay. This is just the chassis--no cabinet. \$9

R. L Drake High-Patch. Needs cleaned but still looks good. All original. Untested. Complete. \$8

Hallicrafter SX-105 VHF mini-boatanchor covering 152-174mc. Cabinet size matches HT-18, S-53, etc. Paint style is smooth two-tone gray. This radio has one or two small blemishes but it really looks brand new. The exteriore sparkles and you can eat off of the chassis. The radio's only flaw is that the dial cord slips. Works but has hum in audio. Complete. All original. \$29

Everready Model 2 loudspeaker. Cast potmetal speaker with pewter grille and red grill cloth. Shaped like a 14" cube with the corners beveled

4" or so. Painted gray. Driver probably not original. Believed to be 1920's vintage. \$49

Heathkit AM-2 reflected power and SWR bridge. Dirty but should clean up very well. Complete. Original. Untested. With original manual. \$15

Shure "Cardiod Uniplex" microphone model 7808. This is a brushed stainless steel round mic with a wide face that has a circular grill pattern. A beautiful, unique mic--the only one of its kind I've ever seen. \$90

Electro Voice EV-649B dynamic microphone. This is a small modern lavalier-style mic with a 4 foot cord. The cord is fraying at the mic end. With 2-pin mic connector that has an intermittent connection. Working as-designed. \$20

Electro Voice 647 microphone. High impedance, saltshaker mic. No cord. \$10

Military BC-1004 receiver. Military version of Hammarlund SP-210-X built during WWII. Covers 540kc to 20mc. Has crystal filter and a mix of metal and glass tubes. This one has original medium gray paint and looks decent. But the meter is wrong (though the replacement looks very good), the bottom cover is missing and the chassis is very dirty with some pitting of the aluminum. The band change mechanism is stiff too. MFP-treated. This radio should be a good restoration project--it will clean up well. No unoriginal holes. I have not tested this radio. Requires external RA-74, -84 or -94 power supply (which I do not have). As-is. \$55

Military BC-779-B receiver. Military version of Hammarlund SP-200-LX built during WWII. Covers 100-400kc and 2.5-20mc. Has crystal filter and a mix of metal and glass tubes. This one has original light gray paint and looks very good. I think the band change knob is wrong but it looks good. The bottom cover is missing. Dusty chassis but no corrosion or weathering. This radio works very well--variable selectivity, BFO and (original) s-meter all work as designed. No unoriginal holes. Complete with external RA-94 power supply that attaches with a long-ish cable (included). \$110

Military SEM-52A VHF walkie-talkies (2 to sell). German-made handheld that has 6 crystal-controlled channels in the frequency range 47 - 57mc. 300mw out. 25kc channel spacing. Controls are On/Off/Squelch, Volume and Channel. Runs on 6 AA nicads (not included). Accessories included are rubberized tape whip antenna, headset-mic with PTT option, spare battery pack (empty), carrying bag and shoulder harness. Excellent condition. 2 crystals included in each radio. \$90 each

Military BC-223-AX HF transmitter made by Federal Telegraph with a 1942 contract date. With "transmitter Tuning Unit TU-17-A" covering 2mc-3mc also made by Federal with matching contract date (two other tuning units were made for this set, TU-18 covering 3-4.5mc and TU-25 covering 3.5 to 5.25mc, but I do not have these). Needs wiped off but looks great. All original. But all tubes are missing! The audio crowd must've picked them up since 3 of them were 801's. Untested. As-is. \$90

#### Literature

Westinghouse "Ready Guide" for Receiving Tubes. This is a spec manual with

spec charts and basing diagrams for Westinghouse receiving tubes. Has a Westinghouse Tube Substitution guide stapled to the front cover. Dated 1961. Excellent condition. \$9

Military BC-779, BC-1004, BC-794 original manual. Very good. \$28

Meissner "How To Build" Instruction Manual (Lindsey reprint). Covers most of the Meissner receiver kits, test gear like the Analyst, most of the amateur gear and some miscellaneous gear plus 17 pages of design data. Like new. \$9

Rider, Frequency Modulation, 1940. Very Good Hardback. \$7

Sams Tube Substitution Handbook. 1971. Cover worn. \$3

Lefax data sheets on everything from amplifiers to short wave receivers to house wiring. All in very beat up leather "book." Quite useful. Most dated 1951-56. \$5/all

Jessop, G.R., VHF-UHF Manual, RSGB, 1969. Content is very nicely covered in about 200 pages. \$7

Schure, Alexander, Filters and Attenuators, Rider #166-36. Very good paperback. 87 pp. \$6

RCA RC-14 Receiving Tube Manual. Cover just fair. Otherwise good. \$7

Crews, Albert, Radio Production Directing, Houghton Mifflin Radio Broadcasting Series, 1944. 550 pp. Excellent hardback. Great photo section covering RCA and Western Electric studio mics. \$16

Williams, Henry, The Fundamentals of Electronics and Their Application In Modern Life, The New Home Library, 1945. Binding edge poor on this hardback. 230 pp. \$3

Collins, Frederick A., The Radio Amateur's Handbook, 1922. The classic amateur handbook. Loose pages. Cover frayed at edges. Fair. \$16

Collins, Frederick A. and Hertzberg, Robert, The Radio Amateur's Handbook, 12th ed., 1970. Updated version of the above. Lots of Heathkit and great shack photos. Cover watermarked. \$9

Cockaday, 23 Lessons In Radio, 1931. Compiled series of Radio News articles. Excellent. \$19

Greiff, Victor, The Superheterodyne Manual, 1st ed., Receptrad Series #1, 1924. Top edge of cover and binding edge crumbling. \$18

Orr, Beam Antenna Handbook, 4th ed., 1971. Cover edges fraying. \$4

Nisbett, Alec, The Technique of the Sound Studio, 3rd ed., 1974. Very good paperback. \$4

Supreme/Beitman 1926-1938 Most Often Needed Radio Diagrams and Servicing Information. Volume 1 dated 1941. \$10

Original RCA/Cunningham tube engineering bulletin FOR CX-345 Power Amplifier dated March 1, 1929. 4 pages long. Aged and a bit dirty but still nice: \$2

1961 Radio Amateur DX Guide by H. J. Nelson. Published by Radio Amateur Call Book, Inc. Very good. \$3

ICS Radio Operators Handbook, 1924, 1st Edition. HB: \$7

CQ-DX Annual. 1948. 1st Edition, 1st Printing. \$3

1939-40 Cornell-Dubilier Capacitor Manual for Radio Servicing. Nice. \$5

Bell System Technical Journal, Index to Volume 9, 1930: \$2

Allied Dictionary of Electronic Terms, 1961. Cover has some stains but

this is otherwise like new. 80+ pages with hundreds of photos and diagrams. \$2

Ameco Amateur Radio Theory Course, 1978. Excellent. \$2

Eimac Reference Literature Photocopy Set. This is about 60 pages of Eimac technical material published 1948 - 1954. Mostly written by K6BJ (John Reinartz), these are short (4-6 pages) & hand typed. This complete Eimac photocopy set is \$8.50 Postage-paid. The set includes:

BUILD YOUR OWN TRANSMITTER, A GUIDE FOR DESIGNERS, 16pp, 1947

The Tuna Fish Can RF-Bridge Voltmeter

Screen and Grid Modulation of Eimac Tetrodes

The Reduction of Harmonic Power Output in Amateur Transmitters

A Carrier level and Modulation Indicating Meter

Pi Network Shortcuts

A Capacity Antenna For Vertical Heights Less than 1/4 Wavelength

Coupling Circuits Between Stages and To Antenna

Simple Tube Calculations

Tetrode Neutralization Considerations

Untitled (but the subject is audio transformer selection)

Conversion Factors For Power Amplifier Triodes and Pentodes

Increased Audio Without Splatter

A Further Explanation of the Paper "Increased Audio Without Splatter"

Application Bulletin #4: Class C Amplifier Calculations. B&W copy of a color 4 page brochure. The Eimac 450TL is used as an example. 1948.

Application Bulletin #5: Tube Performance Computer (sic). B&W copy of a color 4 page brochure with translucent vinyl insert overlay to be used "with constant current curves to obtain plate, grid and screen current values; also output and driving power." 1952.

Free Stuff. Send \$1 postage and I will send any item listed below.

Military RDZ VHF receiver crystals (5).

Military BC-1335 transmitter/receiver crystals (3).

Military BC-1209 crystal (1).

Military Navy TDZ crystals (7).

Military Navy MAR crystals (4).

ARRL Radio Amateur's License Manual, 1964. Edge taped nicely.

ARRL Radio Amateur's License Manual, 52nd ed., 1964. Good.

ARRL Radio Amateur's License Manual, 58th ed., 1967. Good.

ARRL Radio Amateur's License Manual, 61st ed., 1968. Good.

ARRL Radio Amateur's License Manual, 1968. Fair.

ARRL Radio Amateur's License Manual, 1969, 62nd ed., very good.

ARRL Radio Amateur's License Manual, 1971. Good.

ARRL Radio Amateur's License Manual, 68th ed., 1972. Exc.

ARRL How To Become A Radio Amateur. Cover taped. 1970.

ARRL How To Become A Radio Amateur, 1974. Excellent.

ARRL Operating An Amateur Radio Station, ARRL, 1971.

ARRL Radio Amateur's Operating Manual, 3rd ed., 1972. Several cover folds.

ARRL Public Service Communications, ARRL, undated (1970's).

CONTACT: Don Merz, N3RHT: 47 Hazel Drive, Pittsburgh, PA 15228.  
412-234-8819 (weekdays, EST or leave a message anytime).  
71333.144@compuserve.com

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End of BOATANCHORS Digest 1760

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